





The name that means Treasure

CUTLASS II µMAX OPERATOR INSTRUCTION MANUAL

CONGRATULATIONS!

Your new Tesoro Cutlass II µMAX Metal Detector is part of a new series of detectors designed to provide you with many happy hours of enjoyment in the most rewarding hobby I can think of—treasure hunting. Ahead of you lay fascinating and exciting experiences as you step into the past—uncovering artifacts lost by past generations, or as you take pleasure in the great outdoors with family and friends searching for precious metals. I wish we could share these experiences with you, and all of us at Tesoro wish you the best of success.

Your Tesoro µMAX detector is capable of meeting your needs in a wide range of treasure hunting situations. As with any other metal detector, familiarity with this instrument is probably the limiting factor in determining how successful you can be. I recommend that you read this manual and understand how to fully operate this detector before attempting to use it in the field. As you become more familiar with your detector through practice, your rate of success will increase dramatically.

The Cutlass II µMAX is a precision electronic instrument that will last for years if properly cared for. Treat it right and it won't let you down.

Good Hunting! Jack Gifford

INTRODUCTION

To be successful in treasure hunting with a detector you must:

- Use a high-performance metal detector designed for the type of treasure hunting you will be doing.
- Learn how to use your metal detector properly.
- Search where there is buried treasure to be found.
- Be persistent.

The Cutlass II µMAX was designed for coin hunting and for all-purpose use. It will find both smaller and deeper objects under good conditions. Because it is sensitive to all metals, it can be used to find a variety of jewelry, relics, gold etc.

This Operator Instruction Manual is designed to help you learn to operate the detector properly for maximum performance in various search conditions. Operating instructions are found in two sections: Getting Started and Operating Techniques.

If you are new to metal detecting, we highly recommend reading and following the entire Getting Started section to develop the "feel" of your detector. Then, study and practice the Operating Techniques section to get the best performance from your detector.

If you are an experienced detectorist and are familiar with the concepts of metal detecting, you may want to go directly to the Operating Techniques section. Whatever your prior detecting experience, the more skilled you become at operating this detector, the more rewarding your results will be.

If you are new to treasure hunting with metal detectors, keep in mind that if there are no valuable metal objects buried where you are searching, it won't matter how good your metal detector is or how skilled and persistent you are. To learn more about where to search for treasure, check with your local metal detector dealer or bookseller for magazines and books on treasure hunting.

PRODUCT DESCRIPTION

The Cutlass II µMAX—part of Tesoro's µMAX Series of metal detectors—is one of the first of its kind: an ultra-lightweight, compact detector that packs the power and performance of a standard size detector. By eliminating troublesome adjustments and complicated features that cause a loss of performance when not used properly, Tesoro has created an easy to operate, grab-and-go detector that's perfect for sport and travel.

The Cutlass II µMAX is a Transmitter-Receiver (TR) type detector that operates in the Very Low Frequency (VLF) portion of the Radio Frequency (RF) spectrum. The Cutlass II µMAX is a "turn-on-and-go" detector that uses only three controls to provide full VLF capabilities.

The performance of the Cutlass II µMAX will satisfy the requirements of the serious detectorist, whether experienced or a beginner. The Cutlass II µMAX uses the latest Surface Mount Technology and Tesoro's proven MAXBoost Circuitry to create one of the most unique Printed Circuit Boards in the industry. This circuit board helps provide greater depth and more sensitivity to smaller, less conductive metal objects or "targets" such as fine gold jewelry. The All Metal and Discriminate Modes are motion-based Silent Search—meaning the searchcoil must be moving to detect a target. The motion required, however, is so slight that pinpointing a target is very easy.

The electronic miniaturization of Surface Mount Technology permits the complex, powerful circuitry of the µMAX detectors to fit into a very small space. The result is a detector that is so light there is no need to body mount the control housing. This exclusive design feature adds to the Cutlass II µMax's ease of use and makes those longer searches more enjoyable.

The Cutlass II µMAX comes with an 8" concentric searchcoil for best all-around use. Optional searchcoils are also available.

**Operation may be more difficult in black sand or certain other extreme conditions that pose problems for metal detectors.*

GETTING STARTED - UNPACKING THE BOX

Your CUTLASS II µMAX was shipped with these parts:

1 Upper Pole Assembly

Fully assembled, including upper pole stem with handle grip, padded arm bracket and control housing.

1 Middle Pole Assembly With Pole Lock

1 ABS Lower Pole Assembly

Fully assembled, nylon pole tip complete with two thick friction washers, mounting screw, lock washer and thumb nut.

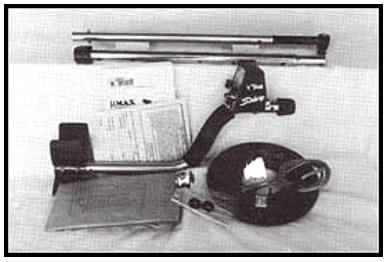
1 8" Round Concentric Searchcoil With 3' Cable

1 9 Volt Alkaline Battery

1 Operator Instruction Manual

1 Tesoro Warranty Card

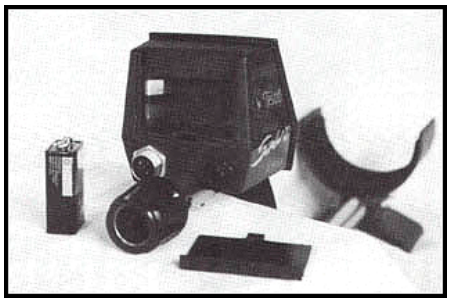
If any of these items are missing, contact the Tesoro Authorized Dealer where you purchased your detector immediately.



Assembly of the CUTLASS II µMAX is simple and requires no special tools. Just install the battery, mount the searchcoil on the lower pole assembly, connect the two pole assemblies together, wrap the excess cable around the pole and plug the cable into the control housing. Finally, adjust the pole length and searchcoil angle and you're ready!

INSTALLING THE BATTERY

Your Cutlass II µMAX is equipped with an automatic battery test circuit so that you can always be sure you are getting top performance. The battery should be checked after the detector has been on for about 10 minutes, and then periodically when used for long durations. For more detailed information, turn to Performing the Audio Battery Test.



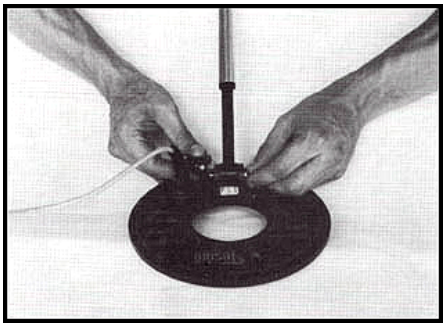
To install or replace the battery, first make sure the SENSITIVITY control is set to POWER OFF—turned completely counterclockwise past the "click." Remove the battery door from the back of the control housing. Do this by pressing your thumb firmly on the louvered square—at the bottom of the battery door—and sliding the battery door upward (in the direction of the arrow) while pushing.

Check the polarity on the battery and on the diagram inside the battery compartment. Make sure that they match and simply drop a fresh 9 volt alkaline battery into the compartment.

Replace the battery door by sliding it into place making sure the upper mount slots are in line and the lock tongue is snapped in place.

ASSEMBLING YOUR DETECTOR

1. On the lower pole assembly, remove the mounting screw and thumb nut from the black nylon pole tip.
2. Insert the pole tip between the mounting ears of the searchcoil and align the holes of the pole tip and washers with those of the mounting ears.

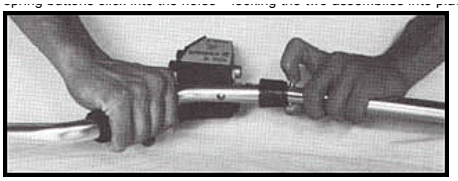


Note: The pole tip should fit very snugly into the mounting ears.

3. Insert the mounting screw through the holes in the mounting ears and pole tip—entering from the mounting ear opposite the cable connection.
4. Install the thumb nut on the mounting screw and tighten by hand.

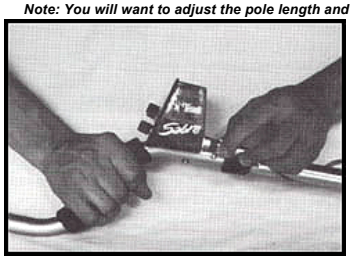
Note: Do not overtighten the thumb nut. It should be snug, but not too difficult to loosen up.

5. On the middle pole assembly, depress the two spring buttons and slide the middle pole assembly into the upper pole assembly until the spring buttons click into the holes—locking the two assemblies into place. Tighten the knurled nut to secure the two assemblies together.



6. Slide lower pole into middle pole until spring buttons click into the first set of adjustment holes. Turn pole lock to tighten—locking the assembly into place.
7. Wrap the cable around the pole leaving enough slack near the searchcoil to permit searchcoil adjustment. Note: Do not allow the cable to flop loosely over the searchcoil. The detector is sensitive enough to see the tiny wires in the cable creating false signals caused by the moving wires.
8. Plug the male cable end into the female connector on the control housing and tighten the cable thumb nut. You are finished!

Note: You will want to adjust the pole length and the searchcoil angle to your preference.



ADJUSTING THE POLE & SEARCHCOIL



The pole length should be adjusted so that the detector does not become uncomfortable or tiring after long periods of use. The detector grip should rest in your hand with your arm relaxed, your elbow straight but not locked, with the pole extending out in front of you at the approximate angle shown in the photo.

You should be able to swing the detector back and forth in front of you—using relaxed *shoulder movement*—while keeping the searchcoil as close to the ground as possible. This swinging movement is often called a "sweep."

The searchcoil should not touch the ground during your sweep. The pole length should be adjusted to allow this without having to lift the detector with your elbow or shoulder. The searchcoil should rest about one inch above the ground while you are standing erect. The angle of the searchcoil should allow the bottom to be parallel to the ground.

The pole length is adjusted by depressing the spring buttons and extending or shortening the pole until the spring buttons click into the set of holes that give you the most comfortable pole length.

To adjust the searchcoil angle, simply loosen the searchcoil thumb nut slightly and move the searchcoil into the desired position. Tighten the searchcoil thumb nut by hand so that the searchcoil will hold in place.

QUICKSTART - SELF GUIDED TUTORIAL

The QuickStart is designed to help you use your new Cutlass II µMAX metal detector right away, even if you've never used a detector before. Just follow each easy step carefully and you'll quickly see how the basic detector functions work. You'll also be introduced to some important concepts on the way.

Here's what you will need:

1. Your fully assembled Cutlass II µMAX metal detector
2. Three newer coins: a penny*, a nickel and a quarter
3. A non-metal table or counter surface
4. Approximately 15 minutes to complete the QuickStart

**must be 1984 or newer—made of zinc*

Here's what you will do:

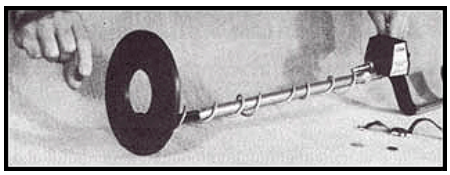
1. Perform an Audio Battery Test
2. Adjust the SENSITIVITY control
3. Perform an air test in All Metal Mode
4. Perform an air test in Discriminate Mode

Prepare for the QuickStart

Place your assembled Cutlass II µMAX on the nonmetal surface. Make sure there are no metal objects near the coil. Remove any jewelry from your hands and wrists.

Start with these control settings:

- DISC LEVEL control set to MIN.
- SENSITIVITY control set to POWER OFF.
- MODE SWITCH control set to ALL METAL



Step 1 Perform an Audio Battery Test

- Turn the SENSITIVITY control from POWER OFF to MIN

You will hear a tone for a few seconds as the battery is automatically tested. When the tone stops, the detector is on and the controls are ready for adjusting.

Function Demonstrated: How the battery test tone will tell you the battery is working each time the detector is turned on.

Step 2 Adjust the SENSITIVITY control

- Turn the SENSITIVITY control from POWER OFF to MIN

This is a good setting to begin with each time you use your detector. Adjust this control when the Audio Battery Test ends. (Leave the control at this setting for the rest of the QuickStart.)

Function Demonstrated: Where and when to set the SENSITIVITY control for basic detector operation.

Step 3 Perform an air test in All Metal Mode

- Leave the DISC LEVEL control set to MIN
- Leave the SENSITIVITY control set to 8
- Leave MODE SWITCH set to ALL METAL

Hold the quarter in your hand and move the quarter back and forth about 12 inches in front of the searchcoil bottom.

Gradually move the quarter closer to the searchcoil—as you continue to move it back and forth—until you hear a "beep." This beep is called the "target response sound."

Continue to move the coin to test the target response sound. As you do this, try varying the distance or angle of the coin. Try varying the speed as you move the coin. Try holding the coin still and then moving it slightly. Notice the differences in the target response sound with each change.

Repeat the test with each coin. Notice that the detector responds to each coin although the target response sound may vary. Your detector can respond to objects made of any kind of metal if there is movement between the object and the detector. Operating your detector in this way is called a "Silent Search All Metal Mode." Now move the DISC LEVEL control from MAX to 7 Pass each of the three coins in front of the coil. Notice the quarter and the penny now cause a target response sound. Control settings to ignore most nickel objects can be: *Function Demonstrated:* How the target response sound will vary in All Metal Mode depending on various factors such as what type of metal targets are buried in the ground, how deep they are, how fast you move your searchcoil and so on.

Step 4 Perform an air test in Discriminate Mode

- Set DISC level to MAX
- Set MODE SWITCH control to DISC

Pass the quarter back and forth in front of the searchcoil bottom. Notice the sound as the coin nears the center of the coil. Now, try the nickel and then the penny. Notice there is no sound with these two coins. The ability of a metal detector to ignore certain types of metal is called "discrimination." Using your detector in this way is called a "Silent Search Discriminate Mode."

Control settings to ignore most zinc and nickel objects can be:

- DISC LEVEL - MAX
- SENSITIVITY - any

Now move the DISC LEVEL control from MAX to 7

Pass each of the three coins in front of the coil. Notice the quarter and the penny now cause a target response sound.

Control settings to ignore most nickel objects can be:

- DISC LEVEL - 7
- SENSITIVITY - any

Now move the DISC LEVEL control from 7 to 4

Pass each of the three coins in front of the searchcoil. Notice all three coins now cause a target response sound.

Control Settings to include newer US coins while ignoring most iron objects can be:

- DISC LEVEL - 4
- SENSITIVITY - any

Function Demonstrated: How the Discriminate Mode can be used to distinguish between different types of metal. By adjusting the DISC LEVEL control, you can select what type of metal your detector will ignore.

Conclusion

Well done! You have finished the QuickStart and have operated the basic detecting features of the Cutlass II µMAX. You have also been introduced to the concepts of "target response sound" and "target discrimination." Now you can begin your journey into the art of metal detecting by actually using your detector to find buried metal. But first, a word about air tests.

The air tests in the QuickStart are of limited value. Metal detectors perform differently in air tests than when in actual use "in the field." Tesoro detectors are specifically designed to deliver the best performance in actual use. The CONTROLS and TUNING YOUR DETECTOR sections will give you the detailed information you need on how to set your detector's controls for the best results, especially when using the Discrimination Mode.

The only way you can become proficient at using your detector to find buried treasure is to *use it in the field and learn from experience!* However, we strongly suggest that you read this entire manual to become familiar with the features as you continue to use your detector. You have the finest tool available, now all you need is the skill that comes from experience.

To Turn Your Detector OFF:

- Turn The Sensitivity Control To POWER OFF.

To Turn Your Detector ON:

- Turn The Sensitivity Control To MIN.

OPERATING TECHNIQUES - CONTROLS

The Cutlass II µMAX has only three controls, which are mounted on the front panel of the detector for fingertip adjustment. How the controls should be set for peak performance will depend on various search conditions such as the ground mineral content, the amount of trash metal at the search site, and so forth. Use the information in this and the TUNING YOUR DETECTOR sections as a starting point for setting the controls on your detector. Experience using the detector in the field will allow you to understand the detector's responses to these conditions and will guide you in fine tuning the detector's controls.



SENSITIVITY Control

This rotary switch control has three functions:

- Activates the automatic Audio Battery Test
- Adjusts the detector's Sensitivity Level

Turning the SENSITIVITY knob completely counterclockwise until it "clicks" turns the detector OFF by disconnecting the battery from the circuit. The detector should always be turned off when not in use.

Turning the SENSITIVITY knob clockwise past the initial "click" turns the detector ON and activates the automatic Audio Battery Test circuit, which will give you a sound indicating the battery's condition. When the Audio Battery Test is over, the detector's Sensitivity Level can be adjusted.

Turning the SENSITIVITY knob clockwise increases the detector's Sensitivity Level. The level is the normal range up to the number 10. This normal range corresponds with the Sensitivity on standard detectors. Turning the SENSITIVITY knob past 10 and into the orange area puts the Sensitivity into the MAXBoost range found only on µMAX detectors.

DISC LEVEL Control

This rotary switch control has one function:

- Adjusts the detector's Discrimination Level

Once the detector is in the Discriminate Mode, the DISC LEVEL control is used to adjust the detector's Discrimination Level.

Turning the DISC LEVEL knob clockwise increases the detector's Discrimination Level and vice versa.

Mode Switch Control

This two position switch has one function:

- Sets Operating Modes to All Metal or Disc

Pushing the switch to the right until it locks into place puts the detector into the Discriminate Mode. The DISC LEVEL will adjust the amount of discrimination the detector is using. Pushing the switch to the left until it locks into place puts the detector into the All Metal Mode. Once the detector is in the All Metal Mode, no further adjustment is made with the DISC LEVEL control.

Controlling Audio Volume

The speaker in the µMAX does not have a volume control. The volume should be sufficient to accurately hear the target response sound in most environments. If more or less volume is required in your particular situation, we recommend using a set of good quality headphones with a built-in volume control.

TUNING YOUR DETECTOR

Since the most troublesome adjustments of standard detectors have been preset in the Cutlass II µMAX, tuning this detector is simply a matter of:

- Selecting the operating mode using the MODE SWITCH LEVEL control.
- Setting the Sensitivity Level using the SENSITIVITY control.
- Setting Discriminate Level using the DISC LEVEL control.

Setting the Discriminate Level does not apply to All Metal Mode operation.

Selecting the proper operating mode

The Cutlass II µMAX offers two operating modes: All Metal Mode and Discriminate Mode. Both of these modes are "Silent Search." This means that the detector will make no sound until it encounters a metal target. Both modes require that the searchcoil be moving slightly for target detection. Both modes are also "mineral free." This means the detector's ground compensation circuitry has been factory preset to ignore all but the most extreme ground mineral conditions.

The All Metal Mode—as the name implies—will detect all types of metallic targets. This mode is excellent for relic hunting or ghost town searching, as many valuable, desirable artifacts may be made of iron or steel. This mode is also good for beach hunting where the sand allows easy digging and time wasted on digging up trash metal is not a major concern.

The Discriminate Mode will allow you to control the detector's response to most of the common metallic trash items found in school yards, parks, and beaches. Discriminate mode is generally used for "coin shooting" in areas where you prefer to avoid wasting time digging common trash metal such as pulltabs and aluminum cans. The Discrimination Level you use will determine what type of metal your detector will ignore. Discriminate Mode in most detectors gives less search depth—up to 35%—over All Metal. The new µMAX circuitry with MAXBoost gives Discriminate Mode the power of All Metal Mode.

Setting the Sensitivity Level in MAXBoost

The MAXBoost feature is a high gain boost over and above the normal maximum of 10 and is indicated by the orange area on the SENSITIVITY control. Using MAXBoost will cause no harm to your detector but can result in the annoying chirping sounds that make it difficult to hear a good target response sound.

In ideal conditions MAXBoost can add inches of depth to your search with no chirping. In difficult conditions, the extra depth will still be there

but heavy chirping may make the feature too difficult to use. You must determine when and how much of the MAXBoost feature to use in your search conditions.

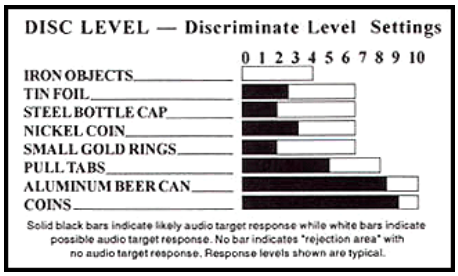
Setting the Discrimination Level

The DISC LEVEL control is used to adjust the detector's response to different types of metal—especially unwanted trash metal—when searching in the Discriminate Mode. At the lowest setting, the detector will ignore most iron objects, but will still respond to light foil, bottle caps, pulltabs and most other metal objects. As the Discrimination Level is increased, more of the trash metal items are ignored by the detector and therefore give no target response sound.

The DISC LEVEL should be set to your desired rejection level for the particular area you are searching. We recommend starting at a low setting if you are unsure of how much trash is in the area. Adjust the level higher if you find yourself digging more trash than you like. Remember that with all metal detectors, you will lose target response to small gold rings and nickels when discrimination is set at a level to ignore pulltabs. So, digging some trash will increase your number of good finds.

The diagram shows the settings where many of the common metallic items are ignored by a typical detector. Each detector can vary a little—due to manufacturing tolerances—so you should experiment with your detector and become familiar with its rejection levels for these trash items.

Earlier motion detectors that operated with a continuous "threshold" sound would give the user a definite indication of trash metal by either "nulling completely" (no sound made temporarily) or by generating short, choppy sounds. Since the Cutlass II µMAX Discriminate Mode is Silent Search and operates without a threshold sound, there is no nulling to indicate that the area is extremely trashy. When searching in the Discriminate Mode, we recommend that you periodically switch to All Metal Mode and check the area you are searching to get an idea of how much trash is really there.



Performing the Audio Battery Test

Your Cutlass II µMAX is equipped with an automatic battery test circuit so that you can always be sure you are getting top performance from it. The battery should be checked after the detector has been on for about 10 minutes and then periodically if you are using it for long periods.

To activate the Audio Battery Test, simply turn the detector off momentarily and then back on again. If the battery is fresh, the detector should emit a continuous and loud "beep" sound that lasts for about 4 or 5 seconds, and then slowly fades into silence. As the battery ages, this sound is less intense and fades out more quickly. When you hear only a brief "buzz," or no sound at all, replace the battery with a fresh one.

If you prefer, a rechargeable Nickel-Cadmium (Ni-Cad) battery can be substituted for the standard 9 volt alkaline battery. Individual 9 volt size Ni-Cad cells, as well as the chargers for them, are readily available at most electronic supply stores. They are installed into your detector in the same manner as non-rechargeables. The Battery Test sound on a Ni-Cad will be weaker than an alkaline in the beginning, but will not weaken as gradually with use.

FIELD USE

Planting a test garden

To better learn how your detector will perform in the field, it would be helpful to bury some coins and metal junk items in an area that is clear of other metal objects, and try the Cutlass II µMAX in its two different operating modes. Check the area in All Metal Mode first to be sure it is clear of trash, then bury the targets at least 1 foot apart, and from 2 to 4 inches deep to start. Make a map of the area, to be sure you know what each target is and how deep it is. Practice on these targets to familiarize yourself with your detector's response. This will also help you learn the proper sweep rate for best operation. This type of practice area is often called a "test garden" or "test bed." It is one of the best tools to help you develop your detecting skills.

Handling your detector

The detector should be held in a position that is comfortable for you as shown in "Adjusting the Pole and Searchcoil" segment in "Getting Started." Swing the detector from side to side in about a three foot arc, overlapping succeeding strokes well. This motion is called a "sweep." The Cutlass II µMAX was designed to get maximum depth without the frantic pace required of earlier motion detectors, so go at a pace that is comfortable for you. In fact, trying to hunt too fast may even cause a loss of depth in heavily mineralized locations.

Regardless of which mode you are using, try to keep your searchcoil height constant and close to the ground. Most people tend to raise the coil at the end of a sweep—much like a pendulum—especially if they are hurrying. Try to avoid this, as any increase in height will cause a corresponding loss of depth.

In areas with well-kept lawns, the easiest way to maintain a constant searchcoil height is to allow the coil to rest on the grass as you sweep from side to side. In rough and rocky areas, it is best not to "scrub" the coil on the ground, as the rocks will act like abrasives, and wear away the coil bottom (an optional coil scuff cover will protect against this). Sweep the coil as close to the ground as possible without touching. Hitting the ground or rocks may cause a false signal much like a desired target would. Sweeping the coil too high above the ground results in a loss of depth.

Recognizing the target response sound

When operating in the Discriminate Mode, some false signals may be caused by 1) heavy concentrations of metallic trash items, 2) very large trash items, or 3) electrical interference. These signals are generally short, choppy sounds and sound different than good target signals.

At the end of your sweep, as you reverse the coil direction, the detector is most susceptible to trash induced noise. There are two ways to tell whether these sounds are good deep signals or trash noise. The first is by repeatability. Trash induced noises will not be regular as you sweep the coil over the suspected target several times, whereas a good target response will be repeatable. The second method is to switch to All Metal Mode and check the target response sound. If the response is weak, it may well be a deep, good target. However, if the response is very strong, it is probably trash. Note that a surface coin can give a double beep sound, but it is regular and repeatable. Raising the coil an inch or two will restore the single beep on surface targets.

When searching in the Discriminate Mode, it is best not to use a higher DISC LEVEL setting than necessary. Nickels and most smaller rings are rejected when the DISC LEVEL is set to reject pulltabs on any metal detector that is a TR Discriminator like the Cutlass II µMAX. If you don't dig any junk at all, you are surely passing up a lot of good finds as well. Set the DISC LEVEL only high enough to suit the conditions where you are searching. If there is any doubt whether a target is good, *dig it.*

Pinpointing a target

Pinpointing a target is probably best accomplished by "X-ing" the target with the searchcoil. Remember the detector will beep just as the target passes under the center of the searchcoil. Sweep the searchcoil over the target from side to side and then from front to back until you can identify the center of the "X": the exact spot on the ground—*under the searchcoil center*—where the detector beeps. Slowing the sweep speed down will help you pick out the center of the "X" because the target response is reduced at very slow speeds making it easier to correlate the sound with the searchcoil center.

Another easy method is to sweep the searchcoil from side to side across the target in very short sweeps, as you slowly move forward and backward across the target. Slow down the sweep rate and shorten the sweeps until you just barely get a response at one spot. The target will be directly below the searchcoil center at this response time.

Raising the searchcoil can also help pinpoint by narrowing the response to the target. Practice pinpointing often, and you will soon become more accurate and faster.

Recovering a target

If the target is shallow and the soil is soft, you may be able to "probe" and find the exact location of the target before you dig it. Since filling all holes after you recover the target is so important, digging a small precise hole is best.

If the target is deep, you may need to dig a larger hole. As you dig, occasionally check the hole with your detector to see if you have moved the object, can probe it or have already dug it.

Be sure to fill all holes after you recover the target. Your dealer should be able to explain the preferred methods of digging in your area. Two methods are shown below that work most everywhere. Be sure to protect your hobby by leaving the site cleaner than you found it and with *all holes filled*.

GENERAL INFORMATION - OPTIONAL ACCESSORIES

Scuff Covers

We highly recommend using a scuff cover to protect your searchcoil at all times. The scuff cover for the Cutlass II µMAX fitted with the 8" searchcoil is Tesoro Part # SCUFF-8R-B.

Searchcoils

The 8 inch concentric searchcoil provided with the Cutlass II µMAX is designed for best all-around performance. Optional searchcoils may add to your detector's performance.

Smaller searchcoils give better "target separation"—that is, more distinct target response for metal objects buried closely together—which is very useful when hunting trashy sites. Very small searchcoils can deliver the best response and depth to small targets such as fine gold chains with some sacrifice in depth on larger objects. Larger searchcoils give a wider sweep, covering more ground, greater depth especially on larger objects; however, they may not detect some very small objects such as half dimes and will have difficulty in very trashy areas.

Widescan searchcoils ignore ground mineralization better than concentric searchcoils and may offer improved performance in extreme ground conditions.

RECOMMENDED RECOVERY METHODS

GENERAL INFORMATION - CARE AND USE

Basic Care

The CUTLASS II µMAX is a sturdy instrument, but it is not designed to withstand abuse. In caring for your CUTLASS II µMAX there are several important “DO NOTs” to remember. DO NOT use it to pry rocks loose or to beat bushes out of the way. DO NOT drop the machine into water. DO NOT use it unprotected in the rain. DO NOT leave it exposed at night where dew could form on it. DO NOT store it in places that could get extremely hot (next to a woodstove, in an attic). DO NOT leave it in the trunk of a car or in the back of a hatchback-style car where high temperatures could build up. DO NOT store it with the battery installed as batteries may leak. DO NOT spray lubricants such as WD-40, or any type of cleaners, solvents, sealants or other chemicals into or onto the electronic parts, switches or controls. And finally, DO NOT attempt to modify or repair the detector’s electronics as this will void your detector's warranty.

THE WARRANTY DOES NOT COVER DAMAGE RESULTING FROM ACCIDENT, NEGLECT OR ABUSE.

Protecting your investment

Often detectorists are disappointed when their new detector slowly becomes less and less responsive and seems to have lost some of its original peak performance. You can help avoid this from happening to your detector by following these basic care and protection guidelines:

- Operate your detector exactly as recommended in this Operator Instruction Manual.
- Use only high-quality alkaline batteries of the correct voltage. Never substitute a different voltage. When using a Ni-Cad battery, always use a separate convertible pack with the proper voltage output for the detector’s design.
- Remove the battery from the detector after each use. This will prevent damage to the detector if the battery leaks.
- The searchcoil cable is hard-wired to the searchcoil and protected by a strain relief. Inspect the strain relief frequently to make sure it is firmly attached and intact.
- Keep cables properly wound around the pole stems and protect them during use. Floppy, pinched, or cables that become snagged during use may short, causing erratic noises or unnecessary replacement of the searchcoil.
- Sweep the searchcoil carefully, especially when using around rocks and building foundations. Avoid hitting the searchcoil against hard, solid objects and surfaces.
- Keep your searchcoil slightly off of the ground during the sweep, especially when using in gravel or hard, rocky dirt.
- Always use a properly designed protective scuff cover on the searchcoil. (See "Optional Accessories" in the next section.)
- Remove and clean out scuff covers periodically to avoid buildup of mineralized dirt particles which will affect performance.
- The searchcoil is waterproof and can be submerged in either fresh or salt water. After the searchcoil is used in salt water, rinse it and the lower stem assembly well with fresh water to prevent corrosion of the metal parts.
- The searchcoil is waterproof but the electronics are not, so always prevent any moisture or water from entering the control housing and never allow the cable connectors to become submerged in water.
- If working in or near water, or if there is a possibility of rain, use a protective weather resistant pouch or plastic bag to cover the control

housing. Make sure it can "breathe" in order to ensure against condensation buildup inside.

- After each use, clean the detector with a soft cloth to remove dust, moisture, or other contaminants.
- When transporting the detector in a car during hot weather, store it on the floor of the passenger compartment if possible. Using a carry bag gives additional protection. In any case, never allow the detector to roll around unprotected in the trunk or back of a pickup truck.
- Protect your detector from dust, moisture, and extreme temperatures during storage.
- When shipping, use the original factory carton or similar heavy-duty container and provide a minimum one inch of padding around all parts.
- Treat your detector as you would any sensitive electronic instrument. Though ruggedly constructed and designed to withstand the demands of normal treasure hunting, proper care is essential.

HAPPY HUNTING
AND THANKS FOR CHOOSING A TESORO

Specifications

Operating Frequency	10 kHz
Searchcoil Type	Round, open center concentric
Searchcoil Size	8" diameter
Cable Length	Approx. 3'
Audio Frequency	Approx. 630 Hz
Audio Output	1½" speaker and headphone jack
Headphone Compatibility	¼" stereo plug
Weight (may vary slightly)	2.2 lbs.
Battery Requirement	One 9 volt DC (alkaline)
Battery Life (typical)	10 to 20 hours
Optimum Temperature Range	30° to 100° F
Optimum Humidity	0 to 75% R.H.
Operating Modes	Silent Search All Metal
	Silent Search Discriminate

METAL DETECTORIST'S CODE OF ETHICS

1. Always check federal, state, county and local laws before searching. It is your responsibility to "know the law."
2. Abide by all laws, ordinances or regulations that may govern your search and the area you will be in.
3. Never trespass. Always obtain permission prior to entering private property, mineral claims, or underwater salvage leases.
4. Do not damage, deface, destroy, or vandalize any property, including ghost towns and deserted structures, and never tamper with any equipment at the site.
5. Never litter. Always pack out what you take in and remove all trash dug in your search.
6. Fill all holes, regardless how remote the location. Never dig in a way that will damage, be damaging to, or kill any vegetation.
7. Do not build fires, camp at or park in non-designated or restricted areas.
8. Leave all gates and other accesses to land as found.
9. Never contaminate wells, creeks, or any other water supplies.
10. Be courteous, considerate, and thoughtful at all times.
11. Report the discovery of any items of historic significance to the local historical society or proper authorities.
12. Uphold all finders, search and salvage agreements.
13. Promote responsible historical research and artifact recovery and the sharing of knowledge with others.

CUTLASS II µMAX FEATURES

- **High Gain Sensitivity Circuitry—**designed specifically to deliver greater depth, sensitivity and stability.
- **MAXBoost Feature—**super high gain can add inches to search depth in proper conditions.
- **High-sensitivity Searchcoil—**an 8 inch, open center, round, concentric type for broad sweep, good pinpointing and deep ground penetration.
- **Ultra-light Weight—**search longer without fatigue.
- **3 piece Knockdown Pole—**compact for storage and travel.
- **Turn-on-and-go—**factory preset for "mineral free" operation.
- **Two Operating Modes—**All Metal and Discriminate.
- **Easy to Operate—**three simple controls at your fingertips.
- **Silent Search Operation—**in both operating modes.
- **Economical to Use—**long life on a single alkaline battery.
- **Tesoro Lifetime Warranty—**our pledge of quality to you.

What it doesn't have

A big, heavy, high-powered speaker—Loud, heavy speakers are popular with many manufacturers. The "fuller" sound these produce gives the illusion of greater sensitivity to small and deep targets—a great showroom sales tool! Most serious detectorists, however, hunt with headphones and a µMAX will work well with standard headphones. If you choose not to use headphones, the µMAX speaker will be loud enough for most environments. It will allow you to hear the small and deep targets found by the µMAX's high power circuitry—without excessive battery drain.

A hip mount, arm strap or battery recharging system—These kinds of "built-in accessories" are simply unnecessary in a µMAX.

The simplicity, power and performance of the Cutlass II µMAX make it the ideal detector for the beginner who wants a machine they will never outgrow. It is also ideal for the detectorist on a budget who doesn't want to settle for mediocre operation.

WARRANTY SERVICE

Your Tesoro metal detector is covered by a **Limited Lifetime Warranty**, the terms of which

are listed below. If your metal detector should require service, you may return it to the Tesoro factory at the address below.

LIMITED LIFETIME WARRANTY

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

This instrument is warranted to be free of defects in material and workmanship as long as it is owned by the original consumer purchaser. This warranty is not transferable and is valid only if the warranty registration card has been completed and mailed within 10 days of purchase.

TESORO will, at its option, repair or replace any instrument covered by this warranty, without charge, except for transportation charges, at its factory in Prescott, Arizona.

This warranty excludes batteries, damage caused by leaky batteries, cable breakage due to flexing on body mount units, and wear of the searchcoil housing. Also excluded are instruments which have been abused, altered, or repaired by an unauthorized party.

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